



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,573	02/21/2007	Patrick Walter Joseph Dijkstra	12114.0004USWO	1704
23552 7590 07/21/2009 MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903				
EXAMINER				
HU, JENNIFER F				
ART UNIT		PAPER NUMBER		
2821				
MAIL DATE		DELIVERY MODE		
07/21/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/582,573

Applicant(s)DIJKSTRA, PATRICK WALTER
JOSEPH**Examiner**

JENNIFER F. HU

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-9 are presented for examination.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-9 rejected under 35 U.S.C. 103(a) as being unpatentable over Sekine (EP 0 978 729 A2 -- cited by Applicant).

As to claim 1, Sekine teaches a device comprising a patch antenna (7, Fig. 1) processing a signal, and coupling means (6, Fig. 1) for connecting the antenna to an electronic component (4, Fig. 1), wherein the patch antenna is arranged on a first side of an antenna plate (1, Fig. 1) wherein the electronic component can be mounted on a second side of the antenna plate and wherein the coupling means comprise a metal passage (6, Fig. 1) through the antenna plate which transposes into a bond pad (13-2, Fig. 5) against the antenna plate on the second side, and a metal bond wire (11, Fig. 1) between the electronic component and the bond pad.

Sekine does not explicitly teach the length of the passage, as seen perpendicularly of the antenna plate, is smaller than a quarter-wavelength of a signal to be processed by the antenna.

As to claim 2, Sekine further does not teach the length of the bond wire is smaller than a quarter-wavelength of the signal to be processed by the antenna.

However, it would have been obvious to one of ordinary skill in the art to make the length of the via significantly smaller than a quarter-wavelength of the signal to be processed so that that via does not contribute substantially to the operating frequency of the antenna device. It is well known in the art that the physical length of a radiating conductor determines the operating frequency of the radiating conductor, and it is preferable that the lengths of the connections between the radiating conductor and the electronic components be negligible in comparison to the size of the radiating conductor and to minimize signal loss.

As to claim 3, Sekine teaches an electrically conductive plate (5, Fig. 1) for the patch antenna is arranged against the second side of the antenna plate, wherein the electrically conductive plate is provided with a recess for the passage.

As to claim 4, Sekine does not explicitly teach the electronic component is a low noise amplifier, but teaches the electronic component is a semiconductor chip or a transmitter-receiver. Sekine further teaches that the transmitter-receiver comprises an amplifier [0010], but does not explicitly teach a low noise amplifier. It would have been obvious to one of ordinary skill in the art that the electronic component would comprise a low noise amplifier because low-noise amplifiers are well known in the art of communication systems to amplify signals received by an antenna, and are often located close to the antenna to minimize signal loss.

As to claim 5, Sekine teaches on the side of the electronic component the passage transposes into a bond pad (13-2, 10, Fig. 5) for the bond wire.

As to claim 6, Sekine teaches the passage has a substantially cylindrical form (6, Fig. 5).

As to claim 7, Sekine teaches on the side of the antenna the passage makes direct contact with a power supply line (12, Fig. 1) of the patch antenna

As to claim 8, Sekine teaches the periphery of the passage substantially corresponds with the width of the power supply line.

As to claim 9, Sekine teaches a radar receiver ("high-frequency transmitter-receiver," abstract) provided with a device as claimed in claim 1.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER F. HU whose telephone number is (571) 270-3831. The examiner can normally be reached on Monday-Friday 9:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Owens can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JENNIFER F HU/
Examiner, Art Unit 2821

/Douglas W Owens/
Supervisory Patent Examiner, Art Unit 2821
July 18, 2009